Trimester:	Unit Title:	Recommended Instructional Days:
3	**Data Displays**	**11 - 14**

Domain: Statistics and Probability

Strand:

6.SP.A.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answer. *For example, "How old am I?" is not a statistical question but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*

6.SP.A.2 Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.

6.SP.A.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

6.SP.B.5 Summarize numerical data sets in relation to their context, such as by:
a. Reporting the number of observations.
c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.
d. Relating the choices of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

Major Cluster **Supporting Cluster** **Additional Cluster** **Climate Change Opportunity**

Progress Indicator: ◊ Tests ◊ Homework / Classwork ◊ Projects ◊ Formative assessments ◊ Summative assessments

Mathematical Practices:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reason of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLS-CLKS within Unit

Essential Questions:
Lesson 10.1: How can you interpret data in a stem-and-leaf plot?
Lesson 10.2: How can you interpret data in a histogram?
Lesson 10.3: How can you explain what it means for a distribution to be skewed left, skewed right, or symmetric?
Lesson 10.4: How can you use the shape of a distribution to determine which measure of center best describes the data?
Lesson 10.5: How can you interpret data in a box-and-whisker plot?

Essential Understandings:
Lesson 10.1: Display and interpret data in stem-and-leaf plots.
Lesson 10.2: Display and interpret data in histograms.
Lesson 10.3: Describe and compare shapes of distributions.
Lesson 10.4: Determine which measures of center and variation best describe a data set.
Lesson 10.5: Display and interpret data in box-and-whisker plots.

Vocabulary:
- stem-and-leaf plot
- stem
- leaf
- frequency table
- frequency
- histogram
- box-and-whisker plot
- five-number summary

**Encourage students to practice using the unit vocabulary as they talk and write about mathematics. Understanding vocabulary will aid their understanding of the concepts. When students encounter a new definition, encourage them to write in their Big Ideas Student Journals. They will revisit these definitions during the Chapter Review.*

Suggested Activity Descriptions:

- Performance Task TB pg. 455, Classifying Dog Breeds by Size?
- Exploration Activities at the beginning of each section.
- Students analyze sample student answers to compare strategies and approaches for problem solving.
- Students engage in fluency practice resources.
- Students use sticky notes, each student will cut apart the tens and ones places of his or her two-digit data value and then place the two pieces in the appropriate locations of a stem-and-leaf plot that is being constructed as a class. The sticky notes allow for easy ordering of the leaves once all students have placed their leaf pieces of paper on the board
- ***Climate Change:*** (6.SP.B.4) Students may display numerical data related to deforestation and increasing livestock farming as contributors to climate change in plots on a number line, including dot plots, histograms, and box plots. Students may develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates. Students may display numerical data in plots on a numberline, including dot plots, histograms, and box plots.

Interdisciplinary Connections:

Science:
1. Big Ideas STEAM Video and corresponding questions on TB page 455.
2. Rich Math Tasks: Science Notes, pgs. 9 - 14, digital Big Ideas resource.

Social Studies:
1. Rich Math Tasks: History Notes, pgs. 3 - 8, digital Big Ideas resource.
2. Exploration 1 TB pg. 457.
3. Reasoning Question TB pg. 469 problem #19.

Language Arts:
1. Rich Math Tasks: Literature Notes, pgs. 21 - 26, digital Big Ideas resource.

Art:
1. Rich Math Tasks: Art Notes, pgs. 15 - 20, digital Big Ideas resource.

Spot Light On: Rachel Carson

Social and Emotional Learning: ***Competencies***	**Social and Emotional Learning:** ***Sub-Competencies***
SEL Competencies: • Self-Awareness • Social Awareness • Self-Management • Relationship Skills • Responsible Decision-Making	• Recognizing the importance of self-confidence in handling daily tasks and challenges. • Demonstrate an awareness of the expectations for social interactions in a variety of ways. • Demonstrate an understanding of the need for mutual respect when viewpoints differ. • Identify and apply ways to persevere through alternative methods to achieve goals. • Utilize positive communication and social skills to interact effectively with others. •Develop, implement, and model effective problem solving and critical thinking skills.
Assessments (Formative) ***To show evidence of meeting the standard/s, students will successfully engage within:***	**Assessments (Summative)** ***To show evidence of meeting the standard/s, students will successfully complete:***
<u>Formative Assessments:</u> • Teacher Observations • Exit Tickets • Quizzes • Self Assessments • Big Ideas Student Journals • Homework/Classwork • Teacher Created Assessments • Progress Monitoring Items • Formative Assessment Tips in Big Ideas Teacher Edition	**<u>Benchmarks & Summative Assessments:</u>** • Chapter/Unit Assessments • Standardized Tests • Project-based Assessments

Differentiated Student Access to Content: **Teaching and Learning *<u>Resources/Materials</u>***			
Core Resources	**Alternate Core Resources** ***IEP/504/At-Risk/ESL***	**ELL Core Resources**	**Gifted & Talented Core Resources**
Big Ideas Student Journal, Dynamic Assessment System, iReady, Khan Academy, Illustrative Mathematics, Learn360, TeacherTube, BrainPOP, Freckle, LearnZillion, MobyMax, 60 minutes of weekly ST Math,	Reteach worksheets, Extra Practice worksheets, Math manipulatives, Scaffolding Instructions in each section of textbook, Tutorial Videos, Skills Review Handbook, Skills Trainer	Dictionary for native language, Video tutorial in native language, ELL Support in each section of Big Ideas Teacher's Edition	ST Math Challenge Objectives, G&T tasks, Enrichment and Extension worksheets, Art of Problem Solving, Leveled assessments

Edulastic, Achieve the Core, Desmos			

Supplemental Resources

Technology:
• Chromebooks • Scientific/Graphing Calculators (upper grades only) • Online math manipulatives
Other:
• Google Classroom, Google Meets, Schoology, Interactive Workbooks • Illustrative Mathematics • insidemathematics.org • National Library of Virtual Manipulatives

Differentiated Student Access to Content:
Recommended *Strategies & Techniques*

Core Resources	**Alternate Core Resources** ***IEP/504/At-Risk/ESL***	**ELL Core Resources**	**Gifted & Talented Core**
Deliver instruction utilizing varied learning styles including audio, visual, and tactile/kinesthetic, provide individual instruction as needed, modify assessments and/or rubrics.	Utilize a multi-sensory (VAKT) approach during instruction, provide alternate presentations of skills by varying the method (repetition, simple explanations, additional examples, modeling, etc.), modify test content and/or format, allow students to retake test for additional credit, provide additional times and preferential seating as needed, review, restate and repeat directions, provide study guides, and/or break assignments into segments of shorter tasks.	Extend time requirements, preferred seating, positive reinforcement, check often for understanding/review, oral/visual directions/prompts when necessary, supplemental materials including use of an online bilingual dictionary, and modified assessment and/or rubric.	Create an enhanced set of introductory activities, integrate active teaching/learning opportunities, incorporate authentic components, propose interest-based extension activities, and connect student to related content.

NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	**Disciplinary Concept(s):** Critical Thinking and Problem Solving	
	Core Ideas:	An essential aspect of problem solving is being able to self reflect on why possible solutions for solving problems were or were not successful.
	Performance Expectation/s:	9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option.
	Career Readiness, Life Literacies, & Key Skills Practices	
	Act as a responsible and contributing community member and employee. **Attend to financial well-being.** **Consider the environmental, social and economic impacts of decisions.** **Demonstrate creativity and innovation.** **Utilize critical thinking to make sense of problems and persevere in solving them.** **Model integrity, ethical leadership and effective management.** **Plan education and career paths aligned to personal goals.** **Use technology to enhance productivity, increase collaboration and communicate effectively.** **Work productively in teams while using cultural/global competence.**	

New Jersey Legislative Statutes and Administrative Code (place an "X" before each law/statute if/when present within the curriculum map)									
	Amistad Law: *N.J.S.A. 18A 52:16A-88*		Holocaust Law: *N.J.S.A. 18A:35-28*	**X**	LGBT and Disabilities Law: *N.J.S.A. 18A:35-4.35*	**X**	Diversity & Inclusion: *N.J.S.A. 18A:35-4.36a*	**X**	Standards in Action: *Climate Change*